Identifying Emerging Hybrid Adversaries

Christopher O. Bowers

Hybrid threats represent a very real security challenge for the United States military in the coming decades. They combine the strengths of an irregular fighting force with various capabilities of an advanced state military, and will play an increasingly prominent role in international security issues. What are the attributes of a true hybrid threat, how do they function, and how can they be countered before they even emerge? Much of the existing literature dealing with hybrid threats focuses on "what" and "who" they are, both in the present day and in the past. What is needed is a methodological attempt to identify where, and in what capacity, these organizations will emerge over the coming decades.

This article describes a methodology to more readily identify an emerging hybrid adversary. The methodology examines the current understanding of hybrid threats and their capabilities, and the identification of three necessary core variables of a hybrid threat organization: maturity, capability, and complex terrain. The "sweet spot" where these variables overlap is the point of maximum tactical, operational, and strategic effectiveness for a hybrid threat. By superimposing these three variables on a possible threat, we can gauge that organization's potential to develop into a true, mature hybrid adversary. We also see the exact circumstances that would enable this development, and can consider how to assist or impede that development.

Understanding Hybrid Threats

There is no consensus definition of hybrid threats—in the open press or military lexicon. They are defined in the *US Army's Training Circular 7-100* as "the diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefitting effects."[1] Authors Frank Hoffman, Nathan Freier, John McCuen, and Helmut Habermayer proposed similar definitions for this type of organization. Their definitions of a hybrid threat include the ability to engage effectively in multiple forms of war, simultaneously.[2] William Nemeth also compellingly discusses hybrid adversaries and hybrid warfare, demonstrating how armed groups from less-developed

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societies tend to incorporate more advanced adversaries' technologies and tactics in new ways that are more effective than originally intended.[3]

The pitfall for numerous studies related to hybrid threats and hybrid warfare is that they set the aperture too wide in identifying who and what a hybrid threat is. It is only natural that every armed force will use any and every means available to it. In many instances, the armed force may employ a variety of capabilities while achieving little actual effect from any number of them. For example, an insurgent group may launch cyberattacks, engage in acts of terrorism, or take part in organized criminal activities. This only means they are similar to virtually every other modern insurgent group. Everyone engaged in armed conflict will attempt to conduct cyberattacks, irregular warfare, information warfare, innovative use of off-the-shelf technology, and other spectacular attacks to the maximum extent possible. One needs to be cautious in simply defining a hybrid adversary as any that engages in multiple forms of warfare, because this can include just about every type of organization from criminal gangs like MS-13 to the German Wehrmacht. If everybody is a hybrid, then nobody is.

The true hybrid mix of advanced military capabilities and organizational maturity is normally not commonplace among armed groups around the world, nor is it easily attained. Consequently, it is important to understand if we can predict how and when an armed group becomes a fully developed hybrid adversary.

A fully developed hybrid adversary will be able to transition between irregular or guerilla war, and highly conventional warfare in company- or larger-sized formations at will. Specifically, as RAND researcher David Johnson writes, a true hybrid adversary will be able to engage opposing military forces effectively at a distance, and force them to fight through an extended engagement area to get into the close fight.[4] In addition, they will employ a wide range of capabilities including cyber, social media, secure communication, organized and transnationally networked crime, and advanced technologies such as unmanned aerial vehicles (UAVs). In the future, they may even utilize robots.

Not only will they possess these capabilities, but they will be competent in using them. This "middle range" of capabilities—less than a modern state military, more than a guerilla or insurgent force, with aspects of both—makes hybrid threat organizations problematic for advanced western militaries.[5] Hybrid organizations maintain a relatively loose, cellular nature. They maintain close links with the populace that make insurgency, terrorism, and organized crime so challenging to defeat. Their advanced combat capabilities make them more than a match for many military forces that are not equipped and trained for modern joint combined arms fire-and-maneuver warfare.[6]

These hybrid threat organizations do not simply spring into being, but develop and evolve in very specific and predictable ways. The notion of an evolutionary progression of development for armed groups is not new. Peter Underwood deals with this evolution in his examination of pirates, Vikings, and Teutonic Knights. He finds that armed groups can progress along a spectrum from minimally organized bands motivated by easy profit on one extreme, to highly organized militants driven by fanatical ideology on the other.

Between these two extremes is a spectrum of progression in which an armed group will gradually become less focused on short-term profit seeking. The armed group becomes more oriented on attaining political power and military capability to better promulgate their ideals. Underwood refers to this as a "maturing" process. He finds that groups cannot move along this spectrum without the involvement of an established political power—in modern times, a state sponsor.[7]

Capability

To operate as a hybrid threat, an organization needs to have at least some of the capabilities of a modern, conventional military. For purposes of this study, a group is credited with possessing a capability when it has:

- A particular type of weapon or technology in significant numbers, e.g., anti-tank guided missiles (ATGMs), man-portable air-defense system (MANPADS).
- The training to use them effectively.
- The capability to maintain sustainability.

For example, groups with a supply of ATGMs should also be able to prepare, aim, and fire the weapons effectively, as well as understand their tactical use against a particular armored target—not an intuitive series of tasks, as any infantryman will testify.[8] Even if they are able to make adequate use of their ATGMs in individual attacks, are they able to use this weapon in concert with other capabilities as part of a larger operation?[9] And if they are able to do this, are they able to get more ATGMs once their available supply is expended, or maintain them if they are not currently needed? If the answer to any of these and other questions is "no," then the group's ATGMs are "an event—not a capability," to paraphrase the strategic visionary David Johnson.[10]

Where can an organization acquire these capabilities and the know-how to support them? In a number of cases, the weapons, training, and sustainment may already be present in the form of a failing state's military. After state collapse, members of that military may doff their uniforms and coalesce into a rapidly formed hybrid threat organization. They retain the ability to continue using their existing military capabilities but are now unfettered by the demands of supporting a decrepit state apparatus. This dynamic was seen in Chechnya in the 1990s, and to a degree in the Sunni nationalist insurgency in Iraq from 2003-07. These military forces move "down" the spectrum depicted in Figure 1 into the hybrid sweet spot, likely gaining in combat effectiveness as they do so, until finally receding below the threshold as their capabilities are expended.

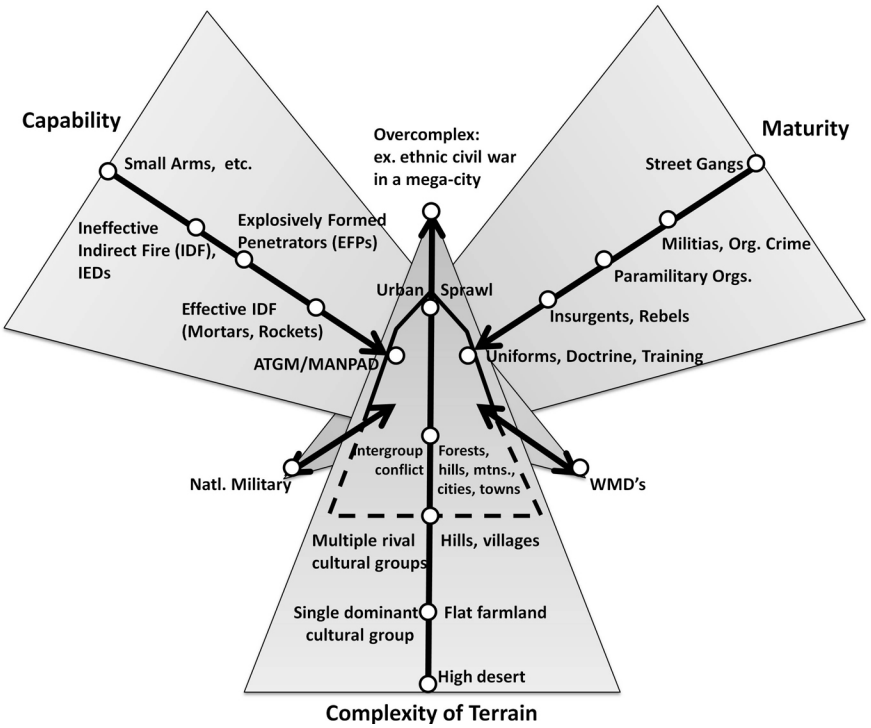

Figure 1: Hybrid Threat Intersection

State collapse is also the scenario by which a hybrid threat would most likely gain access to weapons of mass destruction (WMDs). WMDs would require the same prerequisites as any other capability, but by their nature they tend to require rare, specialized, and expensive training and sustainment, and may be difficult for a hybrid adversary to maintain as a capability. In addition, a hybrid's possession of WMDs would elicit a particularly heavy military response from world powers. Whether or not a hybrid threat organization armed with WMDs could be deterred in the same manner that states can be is uncertain. State sponsors can be deterred from providing these capabilities to their hybrid proxies, and recent history seems to bear this out. Hybrids that acquire their WMDs through state collapse, however, may not respond to the same stimuli that influences states.

State collapse is infrequent, so in most cases, an organization will need to acquire advanced weapons, training, and support from a state sponsor. The dynamics of state sponsorship and proxy warfare have filled any number of books.[11] Suffice it to say here, that a state sponsor will provide support to the extent that it feels its proxy group represents an effective means to a strategic end. It will gauge its level of support according to how safe, and in accord with its overall interests, an investment in a particular group is. It will calculate in terms of that group's alignment or responsiveness to the sponsor's desires, and that group's ability to effectively achieve those desires.

Lebanese Hezbollah is perhaps the best current example of a state proxy whose sponsor, Iran, has provided the capabilities necessary to operate as a hybrid threat.[12] On the other hand, Shiite extremists in Iraq, often affiliated with Jaysh al Mahdi, provide an example of groups who received only marginal support from their Iranian state sponsors. Iran never provided those organizations with any widespread operational capabilities greater than explosively formed penetrators (EFPs) and some relatively minor training and technical expertise.[13] The juxtaposition in capabilities between these proxies, sponsored by the same state, is telling. Why did Iran provide more advanced capabilities and support to Hezbollah than it did to Shiite insurgents in Iraq? The reasons are many, but have much to do with the different internal dynamics within these proxy organizations, and their ability to attract and use capabilities provided.

No state wants to invest resources in a proxy organization that cannot or will not predictably assist in achieving its strategic ends. The degree to which a sponsoring state is deterred by outside actors from a high level of support to a proxy is also a critical factor. Yet, here again, the predilections of that proxy group will factor into the sponsor's calculations of risk versus gain. Essentially, in order to attract a high degree of state sponsorship and the capabilities this can bring, an organization must possess the maturity to make that sponsorship a good investment.

Maturity

Group maturity is important if an organization is to become a hybrid actor. Maturity includes:

- Degree of organization and cohesion.
- Depth of leadership.
- Responsiveness to internal leadership and foreign state sponsors.
- Population support.
- Extent to which the group is goal-oriented with an effective strategy.

Group maturity increases along a spectrum depicted in Figure 1, from the level of mass demonstrators and criminal street gangs, through more sophisticated organized crime groups and militias, paramilitary organizations, and then to guerilla or insurgent forces that can operate as effective units below the company level.[14] As these organizations increase past this level of capability and organization, they begin to enter the sweet spot range where they present the most effective means to a sponsor's strategic ends.

This level of maturity implies a degree of organization and leadership where there are fewer single points of failure. Key leaders and even entire units can be killed and captured with relatively minimal loss of overall capability. A mature armed group will have achieved unity of effort, cohesion, and responsiveness to its leadership's goals and directives. It will have largely purged its ranks of conspicuous rogue elements and renegade factions. The organization's strategic goals will transcend simply making money or settling old scores, although these will still be crucial activities.

Although ideological motivation is important in the development of organizational maturity, excessive adherence to ideology may actually hinder an organization's maturity. Extreme ideologies may impede the organization from the appropriate degree of pragmatism, warding away advanced support from probable state sponsors. Organizations that "take orders from God" normally are not sufficiently responsive to a state sponsor's strategic ends. Al Qaeda is a good example of this, because of their ultra-extreme ideology and inherent uncontrollability. In addition, a particularly savage or nihilistic outlook can have obvious tactical and psychological benefits for any armed group, but will also tend to alienate popular support (potentially even leading to a backlash), incur a stronger response from adversaries, and increase the degree of risk and uncertainty for a potential state sponsor. Abu Musab Zarqawi and al Qaeda in Iraq are the perfect examples, but this is also a factor hindering groups such as Los Zetas in Mexico from becoming a true hybrid threat.[15]

The term "maturity" is not synonymous with "age." Nevertheless, there is an interesting possibility that a hybrid threat organization may not be able to fully mature unless it survives the end of the conflict that gave birth to it, enjoying a period of respite prior to engaging in a subsequent conflict. This breathing space between conflicts will give the organization a critical respite in which to deepen its leadership, strengthen its organization, purge rogue elements, and train its members. It is important to note that this period of respite is rarely peaceful and will likely involve low-level irregular warfare, terrorism, or similar activities. Indeed, these activities are critical to the strengthening and training processes, as well as in maintaining the group's ideological and political relevance. The respite period should, nonetheless, be a genuine reprieve from the constant attrition inherent in open warfare, to a greater extent than that offered by simply having sanctuary.[16]

A hybrid threat group may eventually mature beyond the sweet spot and develop into a full-fledged national military at the successful conclusion of a conflict. In this case, they risk becoming just another third-world army, losing their edge in ennui, bureaucracy, and petty corruption. Conversely, a successful hybrid might become dissipated in warlordism and fratricidal infighting, particularly if they were relatively low on the maturity spectrum or were already on a downward trajectory as is often the case in a rapidly formed post-collapse hybrid. This dynamic can be seen in the aftermath of the first Chechen War, and could potentially occur in the event of hybrid activity in a post-collapse North Korea.[17] The commonality is that while it is difficult for an organization to reach the hybrid maturity sweet spot, it is even more difficult to remain there for an extended period. The natural tendency will be to grow beyond the sweet spot, or to sink below it.

Of course, like all human groups, hybrid threat organizations are a product of their environment. Capabilities are not accrued and exercised, nor is maturity acquired, in a vacuum. Hybrid threat organizations are normally linked to the terrain within which they exist and operate. The very complexity

of that terrain may be a critical factor in determining whether a true hybrid threat can exist.

Complex Terrain

Complexity of terrain is the third factor enabling a mature, capable hybrid threat to achieve success against a modern military. Used here, the term "terrain" includes human as well as geographic terrain. It is almost intuitive that complex terrain is critical in enabling a hybrid adversary to effectively confront a modern military opponent. The less complex the geographic and human terrain, the more a modern western military will be able to leverage its advantages in size, materiel, and technology to gain a decisive advantage.[18] One good example of this was Operation Cast Lead in Gaza, 2008. The Israeli Defense Force took advantage of terrain to isolate Hamas forces in urban areas, reducing their operational effectiveness.[19] Another example can be seen in the conflicts in Chechnya, where Chechen hybrid forces generally ceded control of the region of Chechnya north of the Terek River to the Russians, because the Chechens "cannot fight effectively against them on the steppes."[20]

In addition to enabling a hybrid threat's tactical and organizational abilities, complex terrain provides sanctuary by impeding a modern military's ability to conduct effective targeting. It also puts additional strains on a modern conventional military's organizational, logistical, communications, and transportation capacity. The more complex the terrain, the more it must be taken into account by every member of a military, from a staff planner to an infantry soldier picking his way through a jungle, slowly climbing a mountain, or shouldering through a crowded slum.

Another area of terrain that is now truly coming into its own is cyberspace. A hybrid group's cyber capabilities may enable it to take advantage of the complex terrain of cyberspace in the same manner it leverages physical and human terrain. Cyber capabilities include conducting network attacks, recruiting, information operations, and financial operations.[21] Future hybrid threat organizations may or may not be as comfortable and capable operating in the rapidly developing and amorphous cyber realm as their state adversaries, but it is certain that they will make the attempt.

Figure 1 depicts terrain complexity as increasing along a continuum from high desert (a mechanized military's ideal battleground) to highly complex terrain consisting of dense urban areas in close proximity to broken, hilly, wooded terrain, or jungle. The terrain of an urban megalopolis such as Karachi, Lagos, or Mexico City would be even more complex and would challenge the abilities and capacity of any military.

The spectrum also measures the complexity of human terrain. Human terrain increases in complexity from a single cultural group in a sparsely populated rural area on one end of the spectrum, to multiple mutually hostile ethnic or religious groups in open conflict on the other. A hybrid threat organization will almost certainly draw its strength primarily from a specific racial, ethnic, religious, ideological, or similar cohesive group. For this cohesive cultural

group to have a motive to engage in conflict in the first place there must be some sort of pre-existing tension or disparity within that society, some "wrong" that they want to right. A degree of tension with other groups also serves the hybrid group's purpose in maintaining its ideological underpinnings. This, in turn, will provide it with popular support, recruiting, propaganda, and sanctuary.

Complexity of both geographic and human terrain is closely linked to the operationally defensive nature of hybrid warfare. Hybrids have many of the same qualities as an irregular fighting force or even an insurgency, making it almost impossible for them to operate effectively without close links to local populace or familiarity with local terrain. Deprived of these, they lose many of the tactical advantages of the defense, their weapons and logistical capabilities become less effective, and they lose the ability to shelter from their adversary's targeting. They need to be the "home team" if they want to win. For this reason, hybrid adversaries rarely, if ever, pose an invasion threat to foreign states because they lose the advantages of complex terrain when they abandon it and attempt to operate as a fighting force outside their home region. That said, they will invariably undertake acts of terrorism, rocket attacks, cyberattacks, and other tactical offensive actions against their opponent's homeland if they are able.

As with maturity, the extreme end of the complex terrain spectrum may be detrimental to a hybrid threat organization. An organization that is forced to expend too great a percentage of its energy controlling a mega-city, or scores of isolated tribal valleys, and that is forced to constantly combat strong rivals, will not be able to develop the organizational depth and focus required to survive as a hybrid actor. Quite simply, if these conditions pertain, the hybrid organization has diminished value to the sponsoring state as a strategic proxy and it will likely lose support and revert to an irregular actor.

Once again, the zone of greatest benefit for the hybrid threat organization is where human and geographic terrain are complex enough to provide it with popular support and defensive advantage, but not so complex that the hybrid itself must struggle to master the terrain.

Overlap of the Three Variables

Figure 1 depicts the overlap of these three variables – capability, maturity, and complexity of terrain—that combine to create a hybrid adversary. They are particularly strong within the sweet spot, delineated by the black line, at the intersection of the three variables. If one or more of the variables for a given group is short of—or beyond—the sweet spot, then that group will not be able to present a fully-developed hybrid threat capability. Movement along the spectrum is in both directions. Again, it is perfectly feasible that a group would move "down" the maturity spectrum from a state military to a hybrid threat, which may increase its operational and tactical effectiveness, at least temporarily.

The figure is also a useful template for predicting which existing or emerging organizations could potentially develop into a hybrid threat in the next decade. Due to the requirement for organizational maturity, it is unlikely that a hybrid adversary in the coming years will simply coalesce from nowhere.

Rather, any hybrid adversaries that become active in the next decade will almost certainly develop from armed groups that already exist, or from within the military and security infrastructure of a very particular set of failing states.

The template can be applied to a potential hybrid threat (e.g., a post-collapse North Korea) to gauge its likelihood to fall within the sweet spot intersection of all three variables. If a particular group is approaching the intersection, then this can focus intelligence and planning efforts on that particular group or area.

These efforts go beyond merely planning how to fight or counter that particular group should it ultimately develop into a full-fledged hybrid threat. Clearly, it would be more effective to devote resources toward preventing a potential hybrid adversary from reaching the sweet spot. Primarily, efforts to degrade that group's maturation and to disrupt its accumulation of capabilities need to be taken. Although complex terrain would be a more difficult variable to affect, it may be possible in a few cases to increase the complexity of the human terrain by nurturing a muscular rival organization or otherwise shifting the balance of strength within that society. Such actions could demand a disproportionate degree of the hybrid group's resources and efforts, pulling it out of the sweet spot. Finally, in a number of cases, a potential hybrid may be co-opted as a useful proxy if the strategic circumstances permit.

It is important to remember that hybrid adversaries are not necessarily more dangerous or powerful than other types of armed groups. Their most valuable asset is their ability to surprise an unprepared opponent, one who is trained and equipped particularly for one end of the spectrum of conflict, or one who cannot overcome a preconceived framework of "conventional or counterinsurgency." A military that retains both joint combined-arms fire and maneuver capabilities, as well as the flexibility and population focus of a counterinsurgency campaign, will have the requisite tools to succeed against a hybrid adversary.

If there is a shortcoming of the predictive methodology in this article, it is that an assessment of a group's status is somewhat subjective, particularly with regard to maturity. This could be remedied to a significant degree by a series of additional studies. Applying this method to a potential hybrid threat and consolidating the assessments of subject matter experts on that group's current and potential placement on the three variables, would improve predictability. Alternatively, one might assign the variables to historical cases in an effort to validate the methodology. If enough cases are studied, regression analysis might be applied to test the three independent variables defining the sweet spot in each.

Along with the oft-mentioned examples of the Israeli Defense Force's experiences in Lebanon in 2006 and Gaza in 2008, the American experience in Iraq in 2003 is a useful case study of combat between a conventional western military and an adversary attempting to fight as a hybrid threat. The Iraqi forces of Saddam Hussein attempted to organize and fight against the US-led coalition invasion in a manner that many would call hybrid. They included conventional formations, tanks, artillery, and missiles. They also included "Saddam's

Fedayeen" and foreign irregular fighters, suicide attacks, the use of human shields, information and media campaigns, and outreach to American celebrities and Arab populace. Saddam was believed to possess chemical weapons, and had already demonstrated a willingness to undertake "environmental war" by blowing up oil wells during the first Gulf War in 1991.

The US-led coalition crushed this seemingly robust hybrid threat in one of the most lopsided military campaigns in history. This was primarily due to two factors. The first is that the coalition, and particularly American forces, approached and fought this campaign through joint combined-arms fire and maneuver. This enabled them to handle with relative ease whatever the Iraqis threw at them, be it T-72 tanks, suicide bombers, or infantry swarming tactics.[22]

Second, although the Iraqis attempted to organize and fight in a hybrid manner, they were not able to achieve the synergy and effectiveness of other recent hybrids, such as the Chechens or Hezbollah. They were hobbled by an incredibly inept and ineffective political-military structure. They lacked the technology and know-how to make full use of emerging information and communications media on the battlefield (although this would come later during the insurgency.) They lacked effective, widespread standoff fires capability, such as advanced ATGMs. Much of the initial fighting took place in the south, where the terrain is flat, the populace had no love for the Baathist regime and generally lived in small, dense, easily bypassed cities, all of which favored the mechanized coalition forces. These and a variety of other factors prevented the Iraqi forces from forming a hybrid threat that was more than the sum of its parts. Their shortcomings in capability, maturity, and terrain helped lead to their defeat in the initial campaign, and are a reminder of just how difficult it really is to create a strong and capable hybrid fighting force.

Of course, after the initial campaign, coalition forces quickly found themselves in increasingly dire straits, a tale far too long and complicated to be told here. Although it enabled them to handily defeat Iraqi hybrid forces on the battlefield, American forces' initial singleminded focus on high intensity conventional combat certainly played a part in the ensuing debacle. Obtuse dealings with the Iraqi populace helped set the stage for years of bloody insurgency. Once again, it is vital for a military to retain the flexibility of both its joint combined arms fire and maneuver capabilities, and its mindfulness to the local populace. It is among this populace that future warfare will inevitably take place.

Conclusion

Hybrid threat organizations will play an increasingly prominent role in international security issues in the coming years. Operating in highly complex terrain and combining many of the strengths of an irregular fighting force with various capabilities of an advanced state military, these hybrid threat organizations could confront the United States military in the near future.

This article proposes a methodology through which likely future hybrid adversaries can be more readily identified through three core variables of a hybrid threat organization. Examining the sweet spot where the variables of

maturity, capability, and complex terrain overlap makes it possible to gauge a particular organization's potential to develop into a true hybrid threat.

This will also make it more feasible to see the exact circumstances that would enable this development, and how to assist or impede that development as strategy dictates. This methodology provides a good starting point for additional research that can provide a tool for in-depth analysis of particular groups in support of intelligence and planning efforts.

Notes

1. U.S. Department of the Army, *Hybrid Threat*, Training Circular 7-100 (Washington DC: U.S. Department of the Army, November 26, 2010), 1-1.

2. Frank G. Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars* (Arlington, VA: Potomac Institute for Policy Studies, December 2007); Nathan P. Freier, *Strategic Competition and Resistance in the 21st Century: Irregular, Catastrophic, Traditional, and Hybrid Challenges in Context* (Carlisle, PA: United States Army War College, Strategic Studies Institute, May 2007); John J. McCuen, "Hybrid Wars," *Military Review* 88, no. 2 (March-April 2008):107-113; Helmut Habermayer, "Hybrid Threats and a Possible Counter-Strategy," in *Hybrid and Cyber War as Consequences of the Asymmetry: A Comprehensive Approach Answering Hybrid Actors and Activities in Cyberspace*, eds. Josef Schrofl, Bahram M. Rajaee, and Dieter Muhr (Frankfurt am Main, Germany: Peter Lang), 249-272.

3. Lieutenant Colonel William J. Nemeth's focus is on Chechnya in his study *Future War and Chechnya: A Case for Hybrid Warfare* (Monterrey CA: Naval Postgraduate School, June 2002). However, he also includes examples of this paradigm that include the use of horses and repeating rifles by Native Americans, and the incorporation of mobile communications devices, mass media, and social media by Islamic militants.

4. This is consistently portrayed in works on hybrid threats by David E. Johnson, such as *Hard Fighting: Israel in Lebanon and Gaza* (Santa Monica, CA: RAND Corporation, 2012); David E. Johnson, "Minding the Middle: Insights from Hezbollah and Hamas for Future Warfare," *Strategic Insights* 10 (October 2011), http://www.nps.edu/Academics/Centers/CCC/Research-Publications/StrategicInsights/2011/Oct/SI-v10-FoW_pg124-137_Johnson.pdf; David E. Johnson, *Military Capabilities for Hybrid War: Insights from the Israel Defense Forces in Lebanon and Gaza* (Santa Monica, CA: RAND Corporation, 2010); David E. Johnson, *Heavy Armor in the Future Security Environment* (Santa Monica: RAND Corporation, 2011).

5. See the figure in Johnson, *Hard Fighting*, 171.

6. Johnson, *Hard Fighting*, 146-170.

7. Peter T. Underwood, "Pirates, Vikings, and Teutonic Knights," in *Pirates, Terrorists, and Warlords: The History, Influence, and Future of Armed Groups Around the World,* ed. Jeffrey H. Norwitz (New York, NY: Skyhorse, 2009), 17-25.

8. The difficulties and redundancies necessary for effective use of even the most advanced man-portable ATGMs are also highlighted in James Dunnigan, "Hapless Hezbollah ATGMs Revealed," *StrategyPage.com*, September 7, 2008, http://www.strategypage.com/dls/articles/20089721428.asp (accessed November 28, 2011).

9. David Eshel, "Hezbollah Anti-Amour Tactics and Weapons: Assessment of the Second Lebanon War," Defense-Update.com, 2007, http://defense-update.com/analysis/lebanon_war_4.htm (accessed December 5, 2011).

10. Johnson, *Hard Fighting*, 156.

11. Daniel Byman, *Deadly Connections: States that Sponsor Terrorism* (Cambridge, UK: Cambridge University Press, 2005); Joseph Felter and Brian Fishman, *Iranian Strategy in Iraq: Politics and "Other Means,"* (West Point, NY: CTC 2008); Bary M. Rubin, *The Politics of Terrorism:*

Terror as a State and Revolutionary Strategy (Washington, DC: Johns Hopkins School of Advanced International Studies, 1989).

12. Nicholas Blanford, *Warriors of God: Inside Hezbollah's Thirty-Year Struggle Against Israel* (New York: Random House, 2011).

13. Felter and Fishman, *Iranian Strategy in Iraq*, 38-39.

14. A company will generally consist of about 100 fighters, plus a headquarters element. A company will also have its own organic heavy weaponry (machine guns, anti-tank weapons/ATGMs, mortars, etc.). This organization and its weapons will be subdivided into several platoons of 20-30 men or similar units, which fight in coordination with each other as part of the company. This coordinated action is the critical component that separates a "company" from just being a group of about 100 fighters.

15. Robert J. Bunker, "Criminal (Cartel & Gang) Insurgencies in Mexico and the Americas: What you need to know, not what you want to hear," Testimony before the House Foreign Affairs Subcommittee on the Western Hemisphere at the Hearing 'Has Merida Evolved? Part One: The Evolution of Drug Cartels and the Threat to Mexico's Governance,'"13 September 2011, 6-9, discusses the evolution of gangs and cartels into new warfighting and political insurgencies.

16. Some examples of this respite period can be observed in the cases of Vietnam in the late 1950s and early 1960s, and Lebanon from 2002-2006.

17. Nemeth, *Future War and Chechnya,* 53.

18. Edward Luttwak, "In Praise of Aerial Bombing: Why terror from the skies still works," *ForeignPolicy.com*, (March/April 2010), http://www.foreignpolicy.com/articles/2010/02/22/in_praise_of_aerial_bombing (accessed November 28, 2011).

19. David E. Johnson, "Military Capabilities for Hybrid War"

20. Nemeth, *Future War and Chechnya,* 53.

21. This is dealt with extensively by Richard Schultz in "Virtual Sanctuary Enables Global Insurgency," *Pirates, Terrorists, and Warlords: The History, Influence, and Future of Armed Groups Around the World,* ed. Jeffrey H. Norwitz (New York, NY: Skyhorse, 2009).

22. The author was assigned to 3rd Battalion, 15th Infantry, 3rd Infantry Division, US Army, from May 2003. This unit was a leading part of the drive north to Baghdad, and is a subject of David Zucchino, *Thunder Run: The Armored Strike to Capture Baghdad* (New York, NY: Grove Press, 2004); see also US Army Infantry School, *Infantry in Battle* (Ft. Benning, GA: United States Army, August 2005), 1-9.